

ABSTRACT

An exemplary fuel cell system includes a first fuel cell capable of providing an electrical output; a second fuel cell capable of providing an electrical output; and a switch circuit that includes one or more switches for arranging the electrical output of the first fuel cell and the electrical output of the second fuel cell in parallel or series. Such a system may also include a temperature measurement circuit capable of measuring the temperature of the first fuel cell or the second fuel cell and providing a signal to the switch circuit. An exemplary method includes supplying an excess amount of fuel to a multiple fuel cell system; switching at least some of the fuel cells from a parallel electrical arrangement to a series electrical arrangement; and producing heat from at least some of the excess amount of fuel. Another exemplary method includes supplying a substantially constant amount of fuel to a multiple fuel cell system; switching at least some of the fuel cells from a series electrical arrangement to a parallel electrical arrangement; increasing EMF efficiency; and reducing fuel efficiency. Various other exemplary fuel cell systems, arrangements, methods and controllers are also disclosed.